

AGRICULTURAL, NATURAL AND CULTURAL RESOURCES ELEMENT

Objective of Element

The basic purpose of this element is to provide background information on a wide variety of agricultural, natural and cultural resources and features in the Town (Exhibit G-1). This information will help the Town recognize and identify important resources that need to be protected and/or effectively managed. It will also identify if there is anything that may limit the development potential within the Town (e.g. poor soils, floodplains, wetlands, bedrock, groundwater pollution, etc.). Collectively, this information will help the Town “Grow Smart” which is one of the major tenants of this plan and state statutes.

Exhibit G-1. Basic Objectives of the Agricultural, Natural, and Cultural Resources Element

- Provide background information on a wide variety of agricultural, natural and cultural resources in and around the community.
- Provide maps that document the location and extent of these resources.
- Identify areas for development with the least impact on important resources and features.
- Identify physical limitations, if any, to development.

Agricultural Resources

Agriculture within the Town is a dominant feature of the landscape and within the local economy. Historically, dairy farms were the most dominant component of agricultural in the Town. Overtime, however, many of the dairy farms have ceased, while a few of the dairy farms have grown much larger. This trend toward fewer operators and larger farm operations in the Town is part of a larger statewide and national trend.

According to the Natural Resources Conservation Service (NRCS), approximately 45 percent of the soils are classified as prime farmland (Table G-1). It should be noted that some portion of this sum is not in agricultural production in that some could be used for residential uses and the like.

Another 2,330 acres would be prime farmland under certain conditions. Land considered not prime farmland is interspersed throughout the Town with extensive areas oriented in a southwest to northeast direction (Map G-1).



Town of Cottage Grove, Wisconsin

Table G-1. Prime Farmland: Town of Cottage Grove: 2000

Soil Classification	Acres	Percent Of Total
Prime Farmland	9,210	45.3
Prime Farmland, if drained	1,723	8.5
Prime Farmland, if drained and not flooded	581	2.8
Prime Farmland, if not flooded	26	<0.1
Not Prime Farmland	8,765	43.1
No Data	35	<0.1
Total	20,340	100.0

Source: U.S. Natural Resources Conservation Service (NRCS)

Note: Acreage includes all land uses and may be developed.

Based on an inventory conducted during the summer of 2000, a map was prepared that shows the areas that were actively being farmed at that time. These areas were further divided into those that were farmed by the property owner and those that were farmed by a lessee. This is included here as Map G-2.

Page reserved Map G-1 Prime farmland

Page reserved Map G-2

Farmed Land

Based on this inventory, about 76 percent of the Town is actively farmed. Of this total, 56 percent is farmed by the landowner and 44 percent by a lessee. Obviously, agriculture is important to the Town as an economic base. It also is at the heart of the Town's rural character and charm.

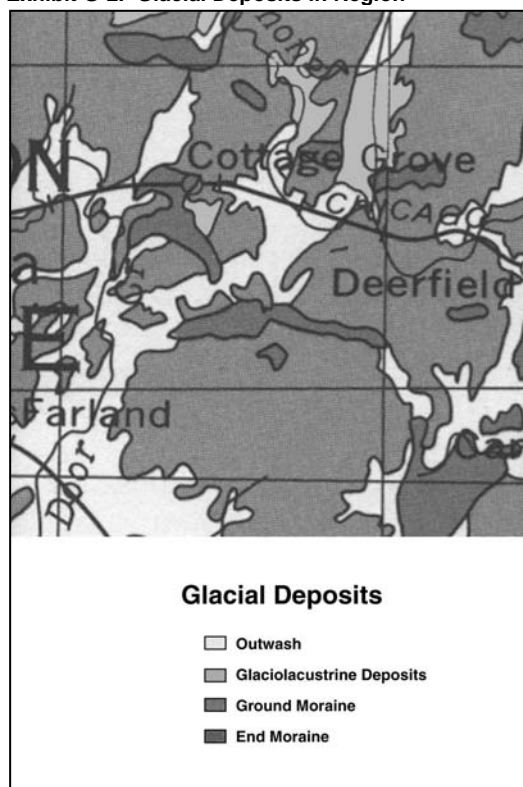
Natural Resources

Geology

The bedrock underlying the Town primarily consists of sandstone and limestone. Beneath these sedimentary rocks is the crystalline rock, which is impermeable to water. Rhyolite, granite and basalt are common components. The surface geology and landforms in the region (and much of Wisconsin) were formed by the continental ice sheets that advanced and retreated from the region several times during the period of time known as the Pleistocene Epoch. Glaciated deposits are grouped into two categories depending on how the materials were moved. If the materials were transported by moving water, the resulting deposits are referred to as outwash deposits and are characterized by well-sorted materials and stratified layers. If the ice sheets physically moved or carried the materials, the deposits are unsorted and unstratified and are known as till deposits. Although there are two main types of glacial deposits, they appear in a wide variety of landforms.

Glacial landforms in the Town are varied and widely dispersed. Outwash plains, terraces and fans appear in a band running from the southwest to the northeast and also in the western part of the Town. A small handful of isolated end moraines are interspersed in the area. The largest end moraines (till deposits) are located near the village of Cottage

Exhibit G-2. Glacial Deposits in Region



Source: "Glacial Deposits of Wisconsin (Map 10) 1976
Wisconsin Geological and Natural History Survey

Grove and in the southern half of the Town. The remaining portion of the Town consists of ground moraine features.

The Pleistocene deposits generally cover the bedrock throughout the region in varying depths up to 400 feet. However, bedrock is near the surface in the southwest portion of the Town generally south of US Highway 12/18. Isolated bedrock outcroppings are also located around Coyt Drive, near Jargo Road, Hope Road and near the north end of the village of Cottage Grove (Map G-3).

Exhibit G-3. Sand and Gravel Potential of Selected Glacial Landforms

Glacial Landform	Sand and Gravel Potential
Outwash (plains, terraces, fans and valley trains)	Likely source of commercial deposits. Generally found in flat-lying formations of varying quality and depth.
Ground Moraine	Low potential. Production is limited to other glacial landforms superimposed on the ground moraine, including gravel-cored drumlins and isolated kames, eskers and similar features.
End Moraine	Low potential. Isolated, small pockets may exist in association with outwash plains and ice contact deposits.

Source: Land Resources Analysis Program, 1976

Map G-3 Bedrock

Metallic and Non-Metallic Resources

There are no known metallic mineral deposits of economic value in or near the Town and no exploration has occurred. No detailed work has been done to map the extent of non-metallic deposits (sand and gravel).

Although most of the commercial sources of sand and gravel are generally associated with the outwash deposits, small, isolated pockets of sand and gravel can be found as summarized in Exhibit G-3. There is a number of gravel pits scattered throughout the Town. Based on information from Dane County, 51 conditional use permits have been issued for gravel pits. Three major sites are still active. Currently, there is one hardrock quarry in the Town located off of Gaston Road. It has been worked for a number of years and should be depleted by 2003-04. Map G-3 indicates that the most promising hardrock resources are in the southern part of the Town.

Soils

Soils in the region were formed from the Pleistocene deposits transported by continental glaciers that moved across the land many thousands of years ago. Some of the soils found in the Town developed from sandy loam glacial till and are generally grouped into two soil associations Dodge-St. Charles-McHenry Association and the Plano-Ringwood-Griswold Association (Exhibit G-4). These are generally found on elevated sites and contain silt loam. The Batavia-Houghton-Dresden Association is associated with the streams in the Town, where much is quite common.

Exhibit G-4. Soil Associations Found in the Town

Soil Association	General Description
Dodge-St. Charles-McHenry	Well drained and moderately well drained, deep silt loams
Plano-Ringwood-Griswold	Moderately well drained and well drained, deep silt loam and loam
Batavia-Houghton-Dresden	Well drained and poorly drained, deep and moderately deep and shallow silt loams and mucks that are underlain by shale or limestone

Source: Soil Conservation Service (1978)

Some of the soils within the Town pose a number of limitations for development. The most common limitation is related to the use of individual septic systems (Map G-4). Some of the soils do not allow proper drainage, while others are saturated.

Groundwater

Groundwater in Dane County is contained in four geologically distinct aquifers. The lowest aquifer is composed primarily of sandstone and is the most productive aquifer. Aquifers closer to the surface tend to yield lesser amounts of water. Adequate supplies of groundwater for domestic, commercial and agricultural uses are available.

Although the groundwater quality is generally good it is susceptible to contamination from various point sources and non-point sources located within the Town and in the surrounding area. In 1987, the Wisconsin Geological and Natural History Survey published a composite map of the state showing groundwater susceptibility, or the ease with which a contaminant can enter the groundwater, based on five features: depth to bedrock, bedrock type, depth to water table, soil characteristics and surficial deposits. Although the map is not intended for site-specific use, it indicates that the region as a whole is quite susceptible.

The Department of Natural Resources maintains a database containing well information for many public and private wells in the State. A review of this database found that there are a number of wells with elevated levels of nitrates and volatile organic compounds. Nitrates can commonly enter the groundwater from individual septic systems and from standard farming practices. The Town is located in an atrazine prohibition area as delineated by the Wisconsin Department of Agriculture. Atrazine is a chemical used to grow corn and is found in groundwater in the region. No wells in the Town are known to contain atrazine.

Map G-4 Soil Limitations

Map G-5 Nitrates

Map G-6 VOCs

Surface Water and Wetlands

The Town is located in the Rock-Fox River Basin as shown in Exhibit G-5 on a drainage divide between the Yahara River and Upper Koshkonong Creek watersheds. The principal streams are Koshkonong Creek to the east and Door Creek to the west. Koshkonong Creek is classified as a warm-water sport fishery, while Door Creek and Little Door Creek are classified as forage fisheries. Over the years, significant portions of each of these creeks have been straightened to help drain the soil primarily for agricultural purposes. Numerous drainage ditches also empty into the unaltered reaches.



The straightening and ditching has negatively affected water quality conditions and fish habitat. There are no open lakes or ponds except for some small isolated ponds.

Most of the significant wetlands in the Town are associated with Door and Koshkonong Creeks and their tributaries. According to the Wisconsin Wetland Inventory for Dane County, there are significant areas with wetland characteristics totaling some 2,200 acres (Map G-7).

Exhibit G-5. Major River Basins of Wisconsin



Vegetation

Presettlement vegetation in the region consisted primarily of prairies and oak savannas characterized by open grasslands with scattered bur and white oaks. Frequent (almost yearly) wildland fires kept intolerant trees and shrubs from gaining a foothold, thus sustaining largely a prairie environment. To a lesser extent, sedge meadows existed in the wetter parts of the prairie region.

Since white settlement, fires have largely been controlled resulting in a change in vegetation and many of the prairies have been converted to agricultural uses. Many of the areas not used for agricultural purposes have developed into dense, closed forest ecosystems. On dryer hillsides, forests of white, red and black oak dominate, while mesic forests of sugar maple, basswood and elm are common on wetter sites.

Threatened and Endangered Species

Based on information contained in Wisconsin's Natural Heritage Inventory there are 70 plants and 75 animal species in Dane County that are threatened, endangered, or a species of special concern. None are known to exist in the Town.

Map G-7 Surface Water and Wetlands

Cultural Resources

Historical Overview

Based on archaeological evidence so far discovered, the first inhabitants to what is now Wisconsin arrived over 10,000 years ago when the continental glaciers retreated northward. To help understand man's presence in the state, archeologists have defined general times periods as summarized in Exhibit G-6.

Exhibit G-6. Archaeological Periods in Wisconsin

Time Period	Name	General Description
10,000 years ago	Paleo-Indians	Paleoindians followed the woolly mammoth, mastadon and bison into the region as glaciers retreated.
8,000 years ago	Archaic	As the climate continued to warm, the large mammals of the Ice Age, were replaced by many of the animals found in the state today. People lived in small family groups, harvested wild plants, nuts and acorns and hunted small animals such as deer and elk
3,000 years ago	Woodland Period	People tended to live in villages. The first evidence of agricultural activities, pottery and the use of bows and arrows. Many mounds were built often in the shape of shape of animals, including turtles, birds and bears, which are referred to as effigy mounds.
1,000 years ago	Mississippian Period	The people in this period, know as Oneota, lived in larger villages with extensive agricultural fields, often growing corn, beans and squash. The Oneota were part of a complex trading network that extended to both coasts.
1634 to present	Historic Period	The arrival of Jean Nicolet, a French explorer, in 1634 marked the beginning of the Historic period.

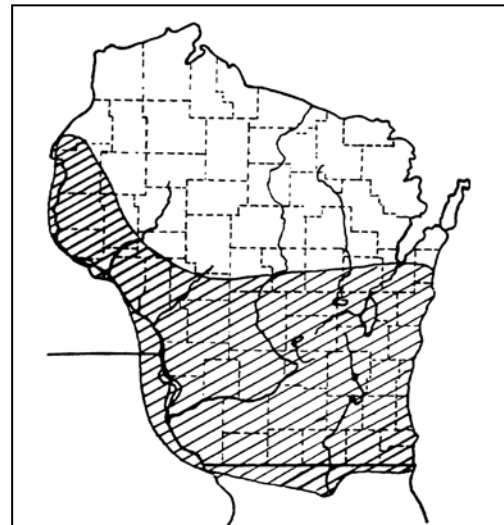
Source: The State Historical Society of Wisconsin and others

Unfortunately, much of the evidence from the pre-history has been lost with increased urbanization and land alteration. Isolated prehistoric sites such as temporary or permanent settlements or extractive sites have been identified throughout the state. As noted in the above exhibit, people during the Woodland Period often built burial mounds. Although single mounds have been found, most occurred in groups, in some cases 30 or more in one location. The Town is located in an area of the state where Indian mounds are most common (Exhibit G-7). Numerous burial mounds are found in and around the Madison area.

Archaeological Resources

No systematic archaeological survey has been conducted in or around the Town. Based on a review of records maintained by the Wisconsin State Historical Society, there are a number of known sites of archaeological significance (Map G-8).

Exhibit G-7. Distribution of Paleo-Indian Burial Mounds in Wisconsin



Historic Resources

There are no historic sites in the Town that are listed on the National Register of Historic Places. According to the Architecture & History Inventory (AHI) maintained by the State Historical Society, there are over 30 structures with some historical significance (Map G-8).

Many of these are located along US Highway 12/18 and were identified as part of the road improvement project. This inventory has not been updated in quite awhile and it is conceivable that some of the structures identified have been destroyed or no longer retain much historical significance. The Town should conduct a reconnaissance survey to update the information contained in the AHI.

Goals, Objectives, Policies, and Recommendations

The goals, objectives, policies and recommendations for this element are found in Chapter B.

Map G-8 Arch Resources and Historic Resources